

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

1. (Cancelled)

2. (Previously Presented) The method of claim 24, wherein the step of determining further comprises the step of measuring the velocity of the first ink droplet discharged from the printhead relative to the velocity of the second ink droplet discharged from the printhead.

3-4. (Cancelled)

5. (Previously Presented) The method of claim 24, further comprising the steps of:

generating an ink droplet velocity profile for the printhead from the determined differences between the parameters of the first and second ink droplets.

6-8. (Cancelled)

9. (Previously Presented) The method of claim 24, wherein the step of regulating the printing operation comprises the step of determining an air gap distance between an imaging medium and the printhead, and based on the air gap distance, adjusting the compensation values to regulate the printing operation.

10. (Previously Presented) The method of claim 24, further comprising the step of:

adjusting at least one of

- (a) a tilt position of the printhead;
- (b) a direction of one of said first and second ink droplets;

and

(c) a speed of one of said first and second ink droplets based on said adjusted compensation values.

11-13. (Cancelled)

14. (Previously Presented) In an image forming system, a method of forming an image with a printhead, the method comprising the steps of:

forming sets of grouped ink ejectors, the groupings determined based on previously entered ink droplet compensation values;

discharging a first set of ink droplets and a second set of ink droplets from the printhead onto a print medium to form an image;

determining differences in distance between the first set of ink droplets and the second set of ink droplets once deposited on the print medium;

presenting the grouped ejectors to a user in one of ascending and descending droplet compensation value ranking;

updating, by the user, compensation values for a selected set of ink ejectors by a constant value based on the determined differences between the first set of ink droplets and the second set of ink droplets; and

controlling a subsequent discharge of the ink droplets from the printhead based on the updated compensation values.

15. (Original) The method of claim 14, wherein the step of determining the differences in distance between the ink droplets of the first set and the ink droplets of the second set further comprises the step of determining an air gap distance between the imaging medium and the printhead.

16. (Original) The method of claim 14, further comprising the step of characterizing the printhead to determine velocity variations in ink droplets, and scheduling the discharge of the ink droplets based on the printhead characterization.

17. (Currently Amended) An image forming system, comprising:

a printhead;

a processor for controlling the printhead; [[and]]

a printhead facility coupled to the processor for controlling the printhead based on a difference in velocity of a first ink droplet discharged from the printhead and a second ink droplet discharged from the printhead, the difference in

velocity determined based on differences between a parameter of the first ink droplet and a parameter of the second ink droplet measured after formation of an image on an imaging medium, the printhead facility including:

a data file including a plurality of compensation values used to control operation of the printhead, and

a compensation adjustment mechanism configured to permit an end user to update the compensation values stored in the data file; and

a group mechanism, which forms groups of ink ejectors of the printhead into sets of grouped ink ejectors, the groupings determined based on previously entered ink droplet compensation values, and presents the grouped ejectors to the user in one of ascending and descending droplet compensation value ranking.

18. (Original) The system of claim 17, wherein said differences between parameters further comprises an air gap distance between the printhead and an imaging medium.

19. (Original) The system of claim 17, wherein the processor varies discharge from the printhead based on the differences between the parameter of the first ink droplet and the parameter of the second ink droplet.

20. (Cancelled)

21. (Previously Presented) The system of claim 17, wherein the printhead facility compensates for any difference in velocity between the first and second ink droplets.

22-23. (Cancelled)

24. (Currently Amended) A printhead signature correction method for a high resolution printer system, deployed at an end user operation site, the method comprising:

- (a) generating, at the time of manufacture of the printhead, a data file of ink droplet compensation values used to control operation of the printhead;
- (b) discharging ink droplets in a predetermined pattern from the high resolution printer system to form a test image on an image medium;
- (c) determining differences between at least one parameter of a first ink droplet and at least one parameter of a second ink droplet of the image, the at least one parameter of the first and second ink droplets being at least one of droplet distance from a target point, parallelism between the first ink droplet and the second ink droplet, or a dimensional analysis of the first and second ink droplets on the image medium;
- (d) deriving updated ink droplet compensation values for the ink droplets, based on at least one of the parameters;
- (e) forming sets of grouped ink ejectors, the groupings determined based on previously generated ink droplet compensation values;
- (f) presenting the grouped ejectors to a user at least in one of ascending and descending droplet compensation value ranking;
- ~~[[e)]~~ (g) adjusting, by the end user, the factory provided ink droplet compensation values stored in the data file;
- ~~[[f)]~~ (h) generating an updated data file including the adjusted ink droplet compensation values; and
- ~~[[g)]~~ (i) regulating the printing operation by use of the compensation values stored in the updated data file.

25-26. (Cancelled)

27. (Currently Amended) The method according to claim ~~[[26]]~~ 24, wherein the adjusting step includes adjusting all the ink ejectors in a specific grouping by a same value.

28. (Currently Amended) The method according to claim ~~[[25]]~~ 24, wherein the step of adjusting the compensation values in the data file reduces drop placement errors to plus or minus four microns in a high addressability direction.

29. (Previously Presented) The method according to claim 24, wherein the compensation values are used for a printhead having a nozzle or ejector density of 600 nozzles or ejectors per inch.

30. (Previously Presented) The method according to claim 24 wherein printhead resolution is equal to or greater than 1200 pixels per inch.

31. (Currently Amended) The method according to claim ~~[[25]]~~ 24, wherein the determining step is accomplished through the use of human vision.

32. (Cancelled)

33. (Currently Amended) The system of claim 17, wherein the compensation adjustment mechanism is further configured to permit ~~[[a]]~~ the user at an operation site to make the compensation value adjustments.

34. (Currently Amended) The system of claim ~~[[32]]~~ 17, wherein compensation adjustment mechanism adjusts all ink ejectors in a group to a same compensation value.